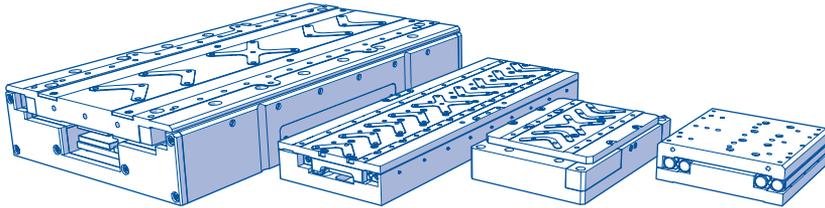


PIMag® Positioner

Short Instructions

V-408 / V-508 / V-52x / V-551 / V-73x / V-741

PI



User Information

These short instructions contain an overview of the most important safety and handling instructions for installing and operating PIMag® positioners with the product numbers specified above (x: any number).

Subject to change. These short instructions are superseded by any new release. The latest respective release is available for download on our website.



Downloading and Reading the Manual

The actions during installation, startup, operation, and maintenance require additional information from the manuals of the positioner and/or the electronics. Manuals may be titled as follows: "User Manual", "Technical Note".

Downloading the Manuals from the Website:

1. Note the product number on the product (e.g., V-524.1AA).
2. Open the website www.pi.ws.
3. If the product was shipped with a data storage device: Log into the website:
 - a. Click **Login**.
 - b. Enter the login data. The login data is in the [...]_Releasenews_[...].pdf on the product's data storage device (in the main directory or the **Manuals** directory).
 - c. Click **Login** or press the **Enter** key.
4. Click **Search**.
5. Enter the product number up to the period (e.g., V-524) into the search field.
6. Click **Start search** or press the **Enter** key.
7. Click the corresponding product in the list of search results.
8. Click the **Downloads** tab.

The manuals are displayed under **Documentation**.
9. Click the desired manual and save it.

If you cannot find the manual you are looking for or if you have any questions: Contact our customer service department via service@pi.de.



General Safety Information

Intended Use

The positioner is a laboratory device as defined by DIN EN 61010-1. It is intended for indoor use and use in an environment that is free of dirt, oil, and lubricants.

In accordance with its design, the positioner is intended for positioning and adjusting loads in one or two axes at various velocities. The positioner is not intended for applications in areas where failure would be a considerable risk for people or the environment.

The intended use of the positioner is only possible when completely installed and connected, and in conjunction with suitable electronics. The positioner may only be installed, operated, maintained, and cleaned by authorized and appropriately qualified personnel.

V-551 only: The V-551 is intended for operation with a horizontally aligned motion axis. With a vertically aligned motion axis, the V-551 may only be operated with suitable weight compensation (not included in the scope of delivery).

Installation

The positioner contains permanent magnets. Their magnetic fields can disturb or damage sensitive devices and objects (e.g., heart pace-makers, EC cards, magnetic storage devices). Loose magnetizable objects (e.g., iron, steel) could be attracted and cause material damage. The magnetic fields are also effective when the positioner is not connected or switched off.

- ▶ Make sure that people with heart pace-makers and / or electronic implants do not have access to the positioner.
- ▶ Remove loose magnetizable objects and sensitive objects from the area where the positioner is to be installed.
- ▶ Make sure that the danger zone is marked and the necessary precautions have been taken.

Mechanical forces can damage or misalign the positioner.

- ▶ Avoid shocks and drops.
- ▶ Maintain the maximum permissible forces (see manual).
- ▶ The calculations must also include the masses of positioners moved in multi-axis systems.
- ▶ Transport the positioner in the original packaging with installed transport safe-guard only.

Incorrectly fitted screws and locating pins can cause damage.

- ▶ Pay attention to the maximum tightening torque (see manual).
- ▶ Do not allow screw heads to protrude.
- ▶ Select the screw length according to the depth of the mounting holes.
- ▶ Do not insert locating pins too deeply into the motion platform.

Collisions can damage the positioner, the load to be moved, and the surroundings.

- ▶ Mount the positioner and the load so that the load cannot get jammed or blocked, or collide with objects in the workspace.
- ▶ Place the cables and objects in the workspace so that they cannot be seized by the motion platform.
- ▶ Make sure that unintentional motion is not possible when changing the orientation.

Unsuitable mounting can damage or misalign the positioner.

- ▶ Mount the positioner on a level surface with similar thermal expansion properties (see manual for recommended flatness).

Heat produced during operation can affect your application.

- ▶ Install the positioner so that the application is not affected by dissipating heat.
- ▶ Ensure sufficient ventilation and heat dissipation from contact surfaces.
- ▶ Pay attention to the permissible values for nominal and peak current (see manual).

Incorrectly offset hard stops can damage the positioner.

- ▶ After displacement of the hard stops, make sure that all adjustable parts are present and properly mounted.

Startup

The surface of the positioner and the surroundings can heat up during operation. Touching the positioner can result in minor injuries from burning. Overheating can damage the positioner.

- ▶ Cool the positioner and the surroundings or install touch protection.
- ▶ If necessary, mark the danger zone according to legal regulations.

Risk of minor injury from crushing between the moving parts of the positioner or the load and a fixed part or obstacle.

- ▶ Install touch protection
- ▶ Maintain safety distances according to DIN EN ISO 13857.

The drive of the positioner is not self-locking. If servo control is switched off, the positioner could move unexpectedly and the motion platform or the load could collide with hard stop or objects in the workspace.

- ▶ If the positioner or axis is aligned vertically or tilted:
 - ▶ Attach suitable gravity compensation.
 - ▶ Run an autozero procedure for the positioner (see manual for the electronics).
- ▶ Take suitable precautionary measures to prevent unintentional motion when switching off or restarting the electronics.
- ▶ Move to the travel range limit only with low velocity and force.

V-52x, V-408, V-508 only: The nominal current as specified in the manual applies when operating at room temperature.

- ▶ Adjust the nominal current needed for operating the positioner when the ambient temperature rises (see user manual).
- ▶ Adapt your application (acceleration, speed, load) so that the calculated nominal current is not exceeded. If you have any questions, contact our customer service department.

Unintentional motion of the positioner is possible when it is connected to the electronics.

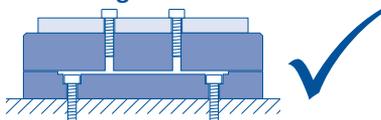
- ▶ Do not place any objects in areas where they can be caught by moving parts.
- ▶ Before connecting the positioner, check whether a macro is defined as the startup macro in the electronics and if necessary, cancel the selection.



Mounting the Positioner and Load

- ▶ Fix the positioner by tightening the screws in the holes provided.
- ▶ Fix the load by tightening the screws in the holes provided.

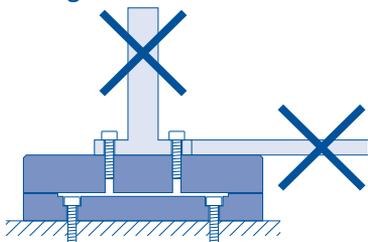
Correct Mounting



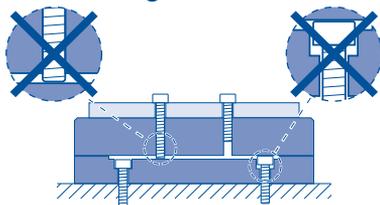
Mounting on an Uneven Surface



Incorrect Alignment of the Load



Incorrect Fitting of the Screws



Starting and Operating the Positioner



NOTICE!

Damage can occur to the positioner if the transport safeguard of the positioner has not been removed and motion is commanded.

- ▶ Remove the positioner's transport safeguard before you start and operate the positioner and electronics system.

The instructions required for startup and operation are in the manual for the electronics used.



Maintenance

The positioner is maintenance-free.

- ▶ If the positioner is moved over a short travel range during continuous operation (<20 % of the travel range): Do maintenance runs regularly.



Old Equipment Disposal

In accordance with EU law, electrical and electronic equipment may not be disposed of in EU member states via the municipal residual waste.

Dispose of your old equipment according to international, national, and local rules and regulations.

PI undertakes environmentally correct and free disposal of all old PI equipment made available to the market after 13 August 2005.

If you have an old device from PI, you can send it to PI free of charge.